NEZ PERCE TROUT PONDS 9501300

SHORT DESCRIPTION:
Emergency repair of two existing trout ponds and site inventory, design and construction of up to 12 additional fish ponds. Continue O&M of facilities.

SPONSOR/CONTRACTOR: NPT
Nez Perce Tribe
James Mauney, Project Leader
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SUB-CONTRACTORS:
Private engineering consultant (TBD), private environmental consultant (TBD), private construction firm (TBD), Nez Perce Cultural Resources Department.

GOALS

GENERAL:
Supports a healthy Columbia basin, Maintains biological diversity, Maintains genetic integrity, Increases run sizes or populations, Provides needed habitat protection

RESIDENT FISH:
Habitat

NPPC PROGRAM MEASURE:
10.8D.1;10.8D.2

RELATION TO MEASURE:
Project will develop, maintain and manage trout ponds within the Nez Perce Indian Reservation, in accordance with specifics contained in Measure 10.8D.2.

TARGET STOCK	LIFE STAGE	MGMT CODE (see below)
Rainbow trout		

AFFECTED STOCK	BENEFIT OR DETRIMENT
Waterfowl/aquatic furbearers	Beneficial
Steelhead/salmon	Beneficial

BACKGROUND

STREAM AREA AFFECTED

Stream name:
Lawyer's Creek, Lapwai Creek, others TBD

Stream miles affected:
100+

Hydro project mitigated:
Dworshak Dam and Reservoir

LAND AREA INFORMATION

Subbasin:
Clearwater

Land ownership:
Tribal/mixed

Acres affected:
60+

Habitat types:
pond (small reservoir)

HISTORY:
Previous investment under the EPA Clean Lakes Program has been committed to obtain baseline water quality data for two existing trout ponds (Brusven 1992, Matthews 1995). Coordination with the USDA NRCS is ongoing to help identify a sound engineering solution for emergency repair of Talmaks Reservoir, one of the two existing ponds. Project supported dam rehabilitation helped hold back damaging winter 1996-97 flood waters, as a significant non-biological product.

BIOLOGICAL RESULTS ACHIEVED:

Talmaks Reservoir was re-excavated during summer/fall 1996, and fish will be reintroduced during spring 1997; therefore, no measureable biological outcomes are reportable to date.

PROJECT REPORTS AND PAPERS:
Progress Reports: June 20, 1995 - January 31, 1996; February 1 - July 31, 1996; August 1 - December 31, 1996 (in process); Annual Report 1996 - in process

ADAPTIVE MANAGEMENT IMPLICATIONS:
This program will provide a barometer of the importance of consumptive resident fisheries to Tribal fishers in the wake of declining or nonexistent consumptive anadromous fisheries.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:
Provide suitable pond habitat to support 8,750-10,500 pounds of rainbow trout annually for a consumptive trout fishery. The strategy to accomplish this is via 14 fish ponds averaging 5 acres with production capability averaging of 125-150 pounds per acre.

CRITICAL UNCERTAINTIES:
An uncertainty is that suitable locations exist within the Nez Perce Reservation to construct 12 new fish ponds averaging 5 acres per pond.

BIOLOGICAL NEED:
This project is for resident fish substitution to partially compensate for irretrievable losses to the anadromous fishery.

HYPOTHESIS TO BE TESTED:
Suitable locations exist within the Nez Perce Reservation to construct 12 new fish ponds averaging 5 acres per pond.Growth of fish stocked in the spring as fingerlings (4-5 inches) would be equal to or greater than .6 inch per month.Recovery to the fishery would be 50%Stocked fish would successfully overwinter for a continuous supply of catchable fish.

ALTERNATIVE APPROACHES:
As indicated in amendment application RF4-0030, dated October 21, 1992, another means of providing resident fish to partially offset non-recoverable anadromous fish losses would be to provide a hatchery-based sturgeon fishery. This would be in addition to, not a replacement of , this project.

JUSTIFICATION FOR PLANNING:
N/A; This is an on-the-ground effort to benefit fish and wildlife.

METHODS:
Consultant based designs for pond construction. USDA NRCS assistance will be also sought to minimize costs. Fish stocking in the spring after ice clears from ponds. Gill netting and/or seining twice annually per pond to track fish growth, condition and survival. Routine monitoring of oxygen/temperature conditions, weekly or daily during adverse summer or winter conditions. Harvest data via surveying a minimum of 4 weekdays and 4 weekend days per month. Methods to obtain harvest data will be assessed for potential modification for most efficient and precise data.2) Mean confidence intervals for growth and condition factors (p=.05). Z-Test with raw score standard deviation for annual differences in mean growth and condition factors. 3) Approximately 50,000 4-5 inch rainbow trout to be stocked annually at full development of 14 ponds. Other salmonids may be used if available and more suited to specific pond conditions.

PLANNED ACTIVITIES

SCHEDULE:

Planning Phase **Start** 1/97 **End** 12/99 **Subcontractor** Partial

Task 1997 - Continue (from 1996) inventory of potential sites for 12 new ponds. Begin pond designs and NEPA assessments. Stock and monitor environment, fish and fishery at 2 existing ponds. Pond maintenance as needed.1998 - Complete pond designs and NEPA assessments for 12 new ponds. Stock and monitor environment, fish and fishery at 2 existing ponds. Pond maintenance as needed. 1999 - Begin construction of 12 new ponds. Stock and monitor environment, fish and fishery at 2 existing ponds and any new ponds constructed. 2000 - Continue construction of 12 new ponds. Pond maintenance as needed. Stock and monitor environment, fish and fishery at 2 existing ponds and any new ponds constructed. 2001 - Complete construction of 12 new ponds. Pond maintenance as needed. Stock and monitor environment, fish and fishery at 14 ponds and any new ponds constructed.

Implementation Phase **Start** 1/97 **End** 12/00 **Subcontractor** Yes

Task Construct up to 12 new ponds.

O&M Phase **Start** 1/97 **End** ongoing **Subcontractor** Partial

Task Stock fish, monitor fishery, pond environments, conduct pond maintenance

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

NEPA documentation and Records of Decision for new ponds may cause schedule changes. Land negotiations for pond sites may also be a factor. The intensity of necessary NEPA documentation may cause budget changes.

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:

There will be 14 fish ponds (2 existing and 12 new) within the Nez Perce Reservation averaging 5 surface acres per pond with a total production capacity of 10,500 pounds of rainbow trout. The minimum target harvest goal (recovery of stocked fish) is 50% by number. The Nez Perce Tribal community will harvest the available trout production from these ponds in the absence or severe reduction of anadromous fish harvest opportunities.

Present utilization and convservation potential of target population or area:

The present utilization and conservation potential for naturally produced (self-sustaining) trout within the immediate pond construction areas is nil because of limited surface water quantity and quality and substrate type.

Assumed historic status of utilization and conservation potential:

The historic utilization and conservation potential for trout in the immediate pond construction areas was probably highly site specific and variable, with surface water quantity first, and substrate type second, being primary limiting factors. If substrate was suitable, native trout may have ascended small low elevation tributary streams to spawn during seasonal high water. Year-round rearing for trout at these locations, however, was probably rare.

Long term expected utilization and conservation potential for target population or habitat:

Total production capacity of 10,500 pounds of rainbow trout. The minimum target harvest goal (recovery of stocked fish) is 50% by number.

Indirect biological or environmental changes:

Littoral vegetation and riparian development along the pond perimeters, in combination with a year-round water source, will likely increase utilization of pond sites by elk, deer, coyote, aquatic furbearers, rodents, birds of prey, waterfowl, ground birds, wading birds and perching birds. Decreased siltation of downstream waterways is expected due to the construction of auxiliary sediment traps and due to the ponds themselves acting as sediment traps. Coordination with landowners and the NPT Department of Water Resources to address watershed practices will also enhance water quality.

Physical products:

60 acres of new pond habitat.

Environmental attributes affected by the project:
Water temperature, dissolved oxygen, turbidity, sedimentation, aquatic habitat, terrestrial habitat.

Changes assumed or expected for affected environmental attributes:
For two existing trout ponds, rehabilitation will result in lower water temperatures more conducive to trout survival during hot, dry periods. Also, increasing pond volume and mechanical (passive) aeration devices will increase dissolved oxygen. As catchments, the ponds will decrease turbidity and reduce sedimentation. Aquatic habitat will increase, with a proportionate decrease in terrestrial habitat. The loss of terrestrial habitat is reversible in the short-term because of the small area of the individual ponds. Terrestrial wildlife is expected to utilize the pond perimeter habitat.

Measure of attribute changes:
See response to Item 101I (above).

Assessment of effects on project outcomes of critical uncertainty:
If suitable sites for 12 new ponds are not located within the NPT Reservation, an assessment will be made of the potential to develop sites off-Reservation.

Information products:
Monitor and evaluate: harvest, fish growth, fish survival, DO, temperature, depth.

Coordination outcomes:
The primary coordination outcome with the NPT Department of Water Resources and landowners will be enhanced watershed planning, focusing on non-point sources of physical/chemical agricultural contaminants.

MONITORING APPROACH
Project outcomes should be measured in terms of: number of ponds rehabilitated, number of ponds constructed, number of fish harvested, total recovery of stocked fish (numbers and pounds), and by environmental parameters, such as DO and water temperature. We will implement this by gill netting and/or seining twice annually per pond to track fish growth, condition and survival. We will conduct routine monitoring of oxygen/temperature conditions, weekly or daily during adverse summer or winter conditions. Harvest data will be obtained via surveying the fishery a minimum of 4 weekdays and 4 weekend days per month. Methods to obtain harvest data will be evaluated for potential modification to achieve the most precise data in the most efficient manner.
2) Mean confidence intervals for growth and condition factors (p=.05).
Z-Test with raw score standard deviation for annual differences in mean growth and condition factors.
3) Approximately 50,000 4-5 inch rainbow trout to be stocked annually at full development of 14 ponds. Other salmonids may be used if available and more suited to specific pond conditions.

Provisions to monitor population status or habitat quality:
Personnel, sampling nets, seines, and fish measuring devices are currently available to sample fish and to conduct fishery surveys.

Data analysis and evaluation:
Following pond construction, our harvest estimates will be analyzed and evaluated relative to our harvest goals.

Information feed back to management decisions:
Management decisions related to this project will be based on feed back (i.e., quarterly progress and annual reports) from the Project Leader through the NPT management structure (Director, Manager, Subcommittee, Executive Committee).

Critical uncertainties affecting project's outcomes:
The critical uncertainty of an adequate number suitable pond locations could be resolved by a reconnaissance level inventory of av

ailable pond sites prior to detailed site analysis. We are applying this approach.

EVALUATION

The project overall performance could be assessed by: number of ponds rehabilitated, number of ponds constructed, number of fish harvested, total recovery of stocked fish (numbers and pounds), and by environmental parameters, such as DO and water temperature.

Incorporating new information regarding uncertainties:

Uncertainties pertain primarily to factors affecting the project's schedule. Scheduling will be based on the most current information (site availability, NEPA progress, construction schedule) available and will be updated in the decision process annually.

Increasing public awareness of F&W activities:

The project will produce new fisheries that represent a tangible product of the regions efforts to protect, mitigate and enhance fish and wildlife.

RELATIONSHIPS

OPPORTUNITIES FOR COOPERATION:

We have and will continue to exercise cooperation among other BPA funded projects (e.g., 8740700, 8501600), to get best use of FTE's, equipment, materials and supplies.Approval from the Nez Perce Tribe Land Commission and the Nez Perce Tribe Executive Committee will be needed to proceed with new construction on Tribal land.

COSTS AND FTE

1997 Planned: $286,800

FUTURE FUNDING NEEDS:

FY	$ NEED	% PLAN	% IMPLEMENT	% O AND M
1998	$750,000	50%	25%	25%
1999	$750,000	25%	50%	25%
2000	$750,000	0%	75%	25%
2001	$300,000	0%	0%	100%
2002	$300,000	0%	0%	100%

PAST OBLIGATIONS (incl. 1997 if done):

FY	OBLIGATED
1995	$21,388
1996	$157,451
1997	$286,496
TOTAL:	$465,335

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

OTHER NON-FINANCIAL SUPPORTERS:

NPT Department of Water Resources; NPT Cultural Resources Department

LONGER TERM COSTS: $300,000.00

Operation and Maintenance

1997 OVERHEAD PERCENT: 29.5%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:

Applies to Personnel and Operating Costs Only

SUBCONTRACTOR FTE: .5

SUPPLEMENTAL RESIDENT FISH EVALUATION FACTORS:
Biological objectives identified in the CBFWA MYIP process.